

**Audit Report**

***Riverside Police Department***

***Air Support Unit***

**July 2013**

**AU14-03**

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## REPORT SUMMARY

Established in 1971, the **Air Support Unit (ASU)** of the Riverside Police Department has expanded over the years from a single helicopter and three sworn officer pilots to seven sworn police officer pilots, one sworn police tactical flight officer (TFO), one sworn sergeant/relief TFO, and two civilian mechanics. The current fleet is comprised of three patrol helicopters and one surveillance helicopter. The crew is scheduled to provide airborne support seven days a week ~ 18.5 hours daily, Monday-Friday and 12 hours on Saturday and Sunday.

ASU provides multi-function airborne support for police ground operations in observing, preventing and interdicting criminal activity. The pilots provide traffic surveillance, control, and aerial support for vehicle pursuit; and back-up assistance to ground patrol units. They conduct tactical team insertions and extractions where it is not practical or possible for field officers by vehicle or on foot.

Using forward-looking infrared technology, ASU provide search and rescue services and conduct area searches for concealed suspects and for lost persons. They provide an aerial photography platform utilized by Code Enforcement as needed for surveillance. Bi-monthly, ASU performs a FLIR<sup>1</sup> and video inspection of the Public Utilities power grid. Routinely they assist the Riverside Fire Department and California Department of Forestry with fire spotting, surveying, and fire suppression by aerial application of water on non-structural fires.<sup>2</sup> ASU also assists local, state and federal law enforcement agencies and task forces on narcotics, criminal surveillance and investigations.

In times of natural disaster, hazardous material spills, civil unrest or other major incidents presenting a threat to life and property, the Air Support Unit is equipped to act as an aerial command post, providing evacuation warnings, crowd control coordination, disaster assessment and coordination.

Equipped with an extensive array of multi-frequency radios, they are able to communicate with neighboring agencies, providing mutual aid as requested. In addition, the unit is able to provide real-time video downlink directly to the command post and to units in the field via the city intranet.

**ASU Standard Operating Procedures** are comprehensive and supplemented by Federal, State and local regulations, as well as by the Riverside Police Department's Policy and Procedures.

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<sup>1</sup> FLIR is a thermal imaging system with a stabilized camera. The equipment was purchased in FY2009/10 by Public Utilities for the ASU.

<sup>2</sup> Currently fire suppression services are not available; the helicopter utilized is grounded. Since April 2013, there have been six requests for fire suppression assistance from RFD; ASU was not able to respond.

**FAR Part 91** Based on our review, it appears the Unit is meeting FAA maintenance and operations compliance per FAA/FAR Part 91.

**Parts inventory** is adequately stored and safeguarded in the hangar and main aviation building; the majority of repair parts on hand are high-volume, low-cost items. Two engine cores (compressor, turbine and gearbox) are on hand but have zero time left on them for use. In the past, two core engines were overhauled and installed in a helicopter as needed; the replaced engine was sent to a vendor for an overhaul. This repair cycle/practice has been discontinued due to maintenance budget constraints. Major parts are not purchased and retained for future maintenance or as replacement parts; they are ordered/purchased as needed or based on maintenance repair records for each helicopter in the fleet. This practice relies heavily on parts being readily available from vendors. If parts need to be sourced, delays can result in a helicopter out of service (grounded) for weeks causing a significant reduction in patrol flight hours or surveillance flight hours.

**Flight hours** over the past several years have declined from approximately 3,000 total hours annually to approximately 1,500 total hours annually. The patrol fleet functions “on call” and no longer performs “routine” flights. Maintenance costs have contributed to the reduction in scheduled flight hours; periodic maintenance requirements are a function of flight hours. **A reduction in routine airborne patrols in high crime areas limits ASU’s ability to provide adequate day and night coverage, seven days a week, creating a potential public safety risk to the community.**

As noted in the recently released *Riverside Community Quality of Life Survey* (pg. 20- 22), “Those individuals (especially those who work in the downtown area, the area near the University of California, and the La Sierra area) appear to feel less of a sense of safety than do those who actually live in Riverside.” The survey notes, “...the areas with the highest feelings of safety are Orangecrest, Canyon Crest, and Woodcrest, whereas the lowest ratings of safety are given by residents in Eastside, Arlanza, Arlington, and Downtown. These results clearly call out for continued action on the part of Riverside leaders and residents to help make Riverside the safest place it can be.”<sup>3</sup>

## OBJECTIVES, SCOPE, AND METHODOLOGY

### Objectives

Our primary audit objective was to ensure the Air Support Unit (ASU) fleet maintenance is in compliance with FAA regulations; operations (including pilot training and certification) are in compliance with applicable FAA regulations; the Unit is meeting its flight hour goals; and fleet repair parts inventory is adequately safeguarded.

### Scope and Methodology

Our review was conducted during the month of July 2013. We relied upon the following to assess operations:

- Riverside Police Air Support Unit Standard Operating Procedures (SOP);
- FAA/FAR Part 91 rules;

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<sup>3</sup> Refer to *Appendix A* regarding “Perception of Safety” from the *2013 Riverside Community Quality of Life Survey*.

- Aircraft (helicopter) maintenance records;
- Flight Time log;
- Walk-through of hangar and repair shop;
- Interview with Unit supervising Sergeant/TFO; and
- Expenditure data from the City's financial system (IFAS).

Our review was conducted in accordance with the *Standards for the Professional Practice of Internal Auditing* of the Institute of Internal Auditors. Those standards require that the audit is planned and performed to afford a reasonable basis for judgments and conclusions regarding the department, Division, program, activity or function under audit. An audit also includes assessments of applicable internal controls and compliance with requirements of laws and regulations when necessary to satisfy the audit objectives. We believe our audit provides a reasonable basis for our conclusions.

## BACKGROUND

The **Federal Aviation Regulations**, or FARs, are rules prescribed by the Federal Aviation Administration (FAA) governing all aviation activities in the United States. The FAR is part of Title 14 of the Code of Federal Regulations (CFR). The rules are designed to promote safe aviation. The ASU operate in compliance with applicable FAR Part 91, for general maintenance and inspection, equipment, records requirements; and maintenance/pilot certification requirements.

The Riverside Police Department **Air Support Unit (ASU)** was established in 1971 with a single Bell 47G-5 helicopter and three experienced sworn officer pilots. Today the ASU includes seven sworn police officer pilots, one sworn police tactical flight officer (TFO), one sworn sergeant/relief TFO, and two civilian mechanics, utilizing three patrol helicopters and one surveillance helicopter. The crew is scheduled to provide airborne support seven days a week ~ 18.5 hours daily, Monday- Friday and 12 hours on Saturday and Sunday.

The current fleet consists of two MD 500E models and one MD 500D for patrol, training and other missions. Another MD 500E is dedicated to surveillance.

Helicopters are flown at an elevation of approximately 500 to 700 feet AGL (above ground level), making them easily visible while controlling the level of noise. The onboard public address system and the searchlight are only used during investigations of criminal activity or while searching for missing persons.

Flight hours are spent providing support to every aspect of law enforcement and other City departments. The Unit works closely with SWAT (special weapons and tactics) teams on mission pre-planning, insertions and extractions. ASU is also called upon to conduct aerial photography missions and pipeline patrols. And the Unit routinely assists the Riverside Fire Department with fire spotting, surveying and fire suppression, using its MD 500D for aerial application of water on brush and urban fires.<sup>4</sup>

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<sup>4</sup> Currently fire suppression services are not available; the helicopter utilized is grounded. Since April 2013, there have been six requests for fire suppression assistance from RFD; ASU was not able to respond.

## Flight Crew Work Schedule

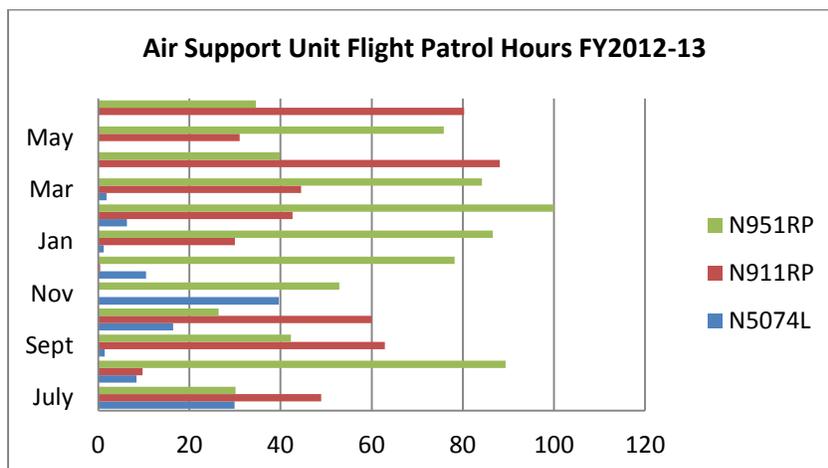
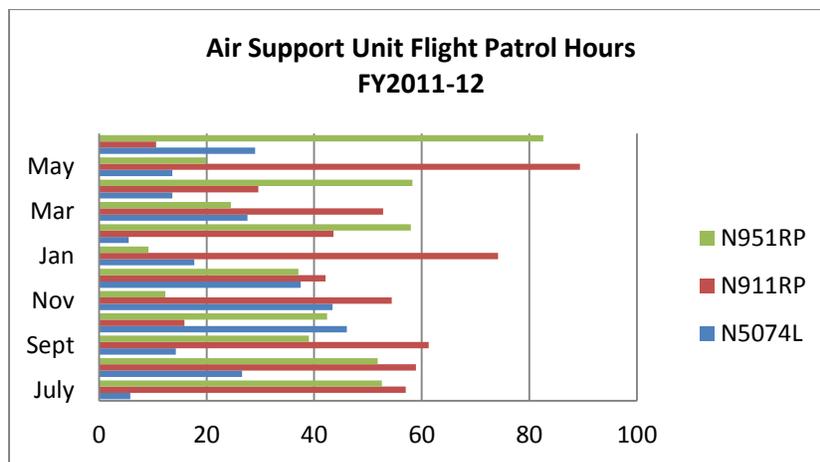
The ASU monthly work schedule for patrol flights is made up of three shifts:

Dayshift	PM1	PM2
0730-1530	1400-0200	1400-0200
M-F	Sun & Wed	Sun & Wed
Off Sat. & Sun	1500-0200	1500-0200
	Mon & Tues	Thur & Fri
	Off EO Wed, ThFS	Off SMT, EO Wed

The dedicated surveillance helicopter 4/10 work schedule is Tuesday- Friday, 8:00am to 6:00pm. Refer to *Appendix B* for an example of a monthly schedule.

## Flight Hours

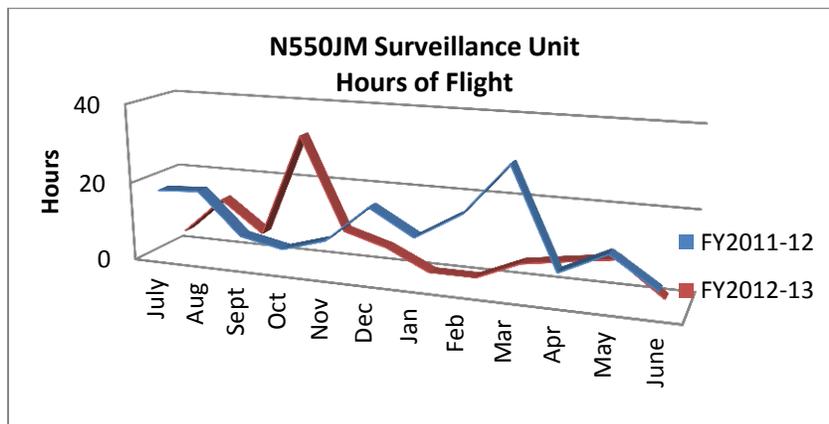
The patrol fleet is dispatched upon request for service and no longer flies a routine patrol over areas of the City. The patrol crew currently averages 9-10 total dispatch calls daily. The following graphs reflect the monthly flight hours per helicopter for the past two fiscal years. Total patrol flight hours for FY2011-12 were 1,358; total hours for FY2012-13 were 1,354.



One patrol helicopter (N5074L) has been out of service (grounded) for several months. That aircraft is in need of a rotor head (\$62K) and an engine overhaul (\$220K). At this time there are no plans to fund the repairs; the Department is considering selling the helicopter. A new MD 500E costs approximately \$1.9 - \$2 million; lease/purchase financing is an option. The process of purchasing and equipping a new helicopter can take up to 18 months.

Various City departments also utilize the ASU patrol fleet at an average of 40 - 45 hours per year. In addition the ASU provides mutual aid as needed to surrounding cities (Corona, Moreno Valley), Department of Forestry and the California Highway Patrol (CHP), at an average of 45 total flight hours per year. Cost for these air support services *are not* recovered from these City departments or other cities/agencies.

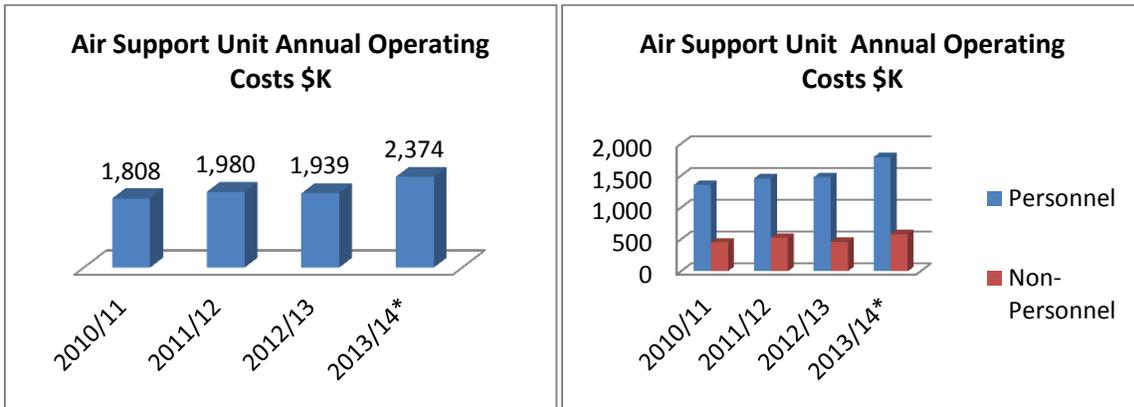
A dedicated MD 500E surveillance helicopter is used for combating crime within the Inland Empire, working closely with the Inland CrackDown Allied Task Force (INCA), an interagency task force organized under the California Department of Justice. INCA provides financial support for the surveillance assistance. In addition, seizure money<sup>5</sup> has yielded funds to assist with aircraft and equipment acquisition in the past. The surveillance helicopter flight hour history for the past two fiscal years is noted below ~ 166.30 total flight hours in FY2011-12; FY2012-13 total flight hours were 89.1, a significant reduction from the prior year. The reduction in surveillance flight hours is mainly due to personnel reduction and a re-organization within the DOJ, which is the parent organization of the INCA Task Force. In addition, the aging N550JM helicopter was out of service for a much needed avionics and equipment upgrade.



Operating Expenses

As indicated by the charts below, ASU total operating costs have remained fairly flat year-to-year. The increase in FY2013-14 budget from prior year operating costs is mainly due to an increase in Salaries, PERS Retirement and Helicopter Maintenance Repairs.

<sup>5</sup> Asset forfeiture funds from the DOJ.



Source: IFAS; 2013/14\* are approved budget expenditures.

- Personnel Expenditures

Properly trained and FAA certified sworn police pilots are necessary to operate the high performance, complex turbine helicopters. According to police aviation documentation, it is easier and more cost-effective to train a police officer to be a pilot than to train a civilian pilot to adequately function in a law enforcement environment.

A 2007 DOJ study on *Airborne Law Enforcement Units* concluded the following: “The majority of aviation units required plane (69%) and helicopter (73%) pilots to be sworn law enforcement officers. More than half (52%) of the 201 units required pilots or pilot candidates to meet a set minimum number of years of law enforcement experience. Of those units requiring previous law enforcement experience, about 70% (or 36% of all units) required pilots to have between two to four years’ experience. Eighty-one percent of units (or 42% of all units) requiring previous law enforcement experience mandated that it must be within the agency. County police agencies had the greatest percentage of units requiring both plane (100%) and helicopter (83%) pilots to be sworn law enforcement officers.

Sheriffs’ office aviation units were the least likely to require that plane or helicopter pilots be sworn officers. Municipal police (68%) had the highest percentage of units with a mandate for pilots or pilot candidates to have previous law enforcement experience. Sheriffs’ offices (30%) had the lowest percentage. In addition to previous law enforcement experience, 63% of all aviation units required new pilot candidates to have Federal Aviation Administration (FAA) pilot ratings prior to joining the unit.”

- Non-personnel Expenditures

Maintenance is a constant, on-going requirement for helicopters. The FAA requires that helicopters be serviced by a licensed mechanic; some components must be replaced on a “time limited” basis rather than “on condition.” If flight hours are increased maintenance costs would increase, as would fuel costs.

Jet fuel costs year-to-year have remained fairly flat; averaging \$110K per year.

Although the City is self-insured, the nature of Police aviation and the financial investment require added insurance coverage. Budget for direct insurance cost for the helicopter fleet is \$72K annually.

## CONCLUSION

Air support enhances the impact of existing patrol units and can reduce or eliminate the need to field more officers. According to the Los Angeles Police Department, "One helicopter provides a patrol and response capability equivalent to eight to ten patrol cars."<sup>6</sup> A similar study by NASA concluded that an airborne helicopter has the same effectiveness as 30 officers in the field.

Random and strategic patrol flights over areas of the City for suspicious activity that is not visible to patrol cars has been eliminated; the ASU functions "on call". As national reports and surveys indicate, a helicopter to assist routine patrols in high crime areas of the City potentially increases officer safety and public security. Cutting helicopter patrol services can actually reduce the Unit's effectiveness and contradict the primary mission of helicopter use in law enforcement. "At a time when the public is demanding increased services with faster response times, the police helicopter has proven to be one of the most valuable tools available to law enforcement agencies nationwide."<sup>7</sup>

We met with the Air Support Unit's Supervising Sergeant/TFO to discuss our assessment. A draft report was provided to the Special Operations Lieutenant in charge of ASU and the Supervising Sergeant. Comments and feedback were evaluated prior to finalizing this report. No formal response to this assessment report is required.

We extend our appreciation to the Air Support Unit who assisted and cooperated with us during the review.

Respectfully,

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Office of the City Manager  
951.826.5688

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<sup>6</sup> *Police Department Air Support Model Proposal* by Robt. A. Gardner, CPP; February 1995.

<sup>7</sup> Lawofficer.com, October 2008.

## Appendix A

### Community Quality of Life Survey 2013 (pgs. 20 – 22)

#### Perceptions of Safety

One of the factors that makes any city a “location of choice” is the feeling that the area is a place where a person can feel safe. Respondents were asked: “Do you feel it is safe to walk in your neighborhood” (or in the area around a person’s work place). Following are the results from the various survey methods:

<b>Do you feel it is safe to walk in your neighborhood/near your work location?</b>				
	<b>Phone survey Percent</b>	<b>Online Resident Survey Percent</b>	<b>Online Worker survey Percent</b>	<b>Online Youth Survey Percent</b>
Yes	82.1	63.9	44.5	47.1
Somewhat	8.4	29.3	39.3	38.4
No	9.5	6.1	16.2	12.8

There is clearly a discrepancy in responses on this question based on the survey modality, a discrepancy most likely due to the fact that hearing a question is different than reading a question. Phone survey respondents hearing the question probably thought it was a “yes/no” question and didn’t perceive initially that an answer of “somewhat” was acceptable. Online survey respondents obviously saw that “somewhat” was a possible option. Thus the reader is encouraged to focus on the fact that the combination of “yes” and “somewhat” responses are relatively consistent (and within the margin of error) for all but the online survey of those who work in Riverside but live elsewhere. Those individuals (especially those who work in the downtown area, the area near the University of California, and the La Sierra area) appear to feel less of a sense of safety than do those who actually live in Riverside.

Focusing on the phone survey respondents (since that represents the most representative sample of all techniques), there are clearly some differences in perceptions of safety based on zip code.

<b>Zip code</b>	<b>% who feel safe</b>
92506	92.9
92505	87.8
92504	87.1
92508	82.8
92501	80.0
92503	76.0
92509	74.5
92507	70.6

There wasn't a sufficient sample size in all neighborhoods to conduct a full analysis by neighborhood (especially since many respondents weren't able to indicate what neighborhood they live in), however it will be no surprise to those familiar with Riverside that the areas with the highest feelings of safety are Orangecrest, Canyon Crest, and Woodcrest, whereas the lowest ratings of safety are given by residents in Eastside, Arlanza, Arlington, and Downtown. Overall it appears that people aged 46 or older felt safest (94.2% "safe" or "somewhat safe") and the younger age group of 18 to 29 year olds felt least safe (84.4% "safe" or "somewhat safe").

Those respondents who felt that it is somewhat safe or not safe to walk in the neighborhood were asked to indicate what contributes to their feeling that the area is unsafe. Following are the main reasons offered (although many people offered more than just one reason):

**Top reasons for feeling somewhat or not safe**

	Phone survey Percent	Online Resident Survey Percent	Online Worker survey Percent	Online Youth Survey Percent
Crime	53.4	40.1	37.2	35.3
Gang problems	17.6	10.8	8.5	17.6
Lack of lighting	9.9	9.3	4.5	3.5
Animal control issues	3.6	5.2	--	--
No/bad sidewalks	2.7	11.0	4.0	10.6

In addition to the above comments, many respondents (especially in the "work in Riverside" online survey) noted that the presence of apparently homeless people made them feel unsafe, especially during evening hours.

A follow-up question on the surveys asked: "How fearful are you that you will be the victim of a serious crime, such as a violent or costly crime, in Riverside?" The options for answers were "not at all fearful," "not too fearful," "somewhat fearful," or "very fearful."

**How fearful of being victim of serious crime**

	Phone survey Percent	Online Resident Survey Percent	Online Work Survey Percent
Not at all fearful	28.0	14.1	14.5
Not too fearful	39.3	48.0	49.2
Somewhat fearful	28.6	34.5	31.0
Very fearful	4.2	5.4	5.3

The above table shows that the majority of respondents are not fearful that they will be the victim of a serious crime. In future years this survey will be able to track responses to determine whether the level of fear is changing due to changing levels of police presence, community efforts, and other actions. In the meantime, it is useful to compare these figures to other regional surveys to

determine whether there is cause for concern. For example, in the recent Inland Empire Annual Survey conducted throughout San Bernardino County, over 55% of San Bernardino City residents and 39% of county-wide respondents reported being somewhat or very fearful, as opposed to the 32.8% in the comparable Riverside City phone survey. This comparison may be encouraging at first glance, however it must be noted that this year's data is an increase in measures of fear from 2011 when 25.8% of City of Riverside residents included in the Inland Empire Annual Survey reported feeling very or somewhat fearful. These results clearly call out for continued action on the part of Riverside leaders and residents to help make Riverside the safest place it can be.

It is important to determine whether the perceptions of safety and increased levels of fear of crime are truly a reflection of the state of the City, or just generic fears of the residents which may be based on past experiences, recent high profile crimes, and perhaps media hype rather than objective reality. But without a detailed probing of responses there is no way of determining the reasons behind people's perceptions. In this case there may be objective reality behind the perceptions since an analysis of crime data for the first quarter of 2013 versus the year before does indicate that there has indeed been an increase in total violent crime. This year there were 348 total violent crimes whereas during the same period in 2012 the figure was 295. Total crimes (including burglary and theft) increased from 2,700 in 2012 to 3,166 in 2013 (source: Riverside Police Department). It is possible that AB109 may be part of the reason for this increase, a trend which can hopefully be reversed in the near future.

Note: AB109 is the state's prison realignment program designed to reduce overcrowding in California's prison system. Some law enforcement members believe that early releases due to crowded county jails have resulted in increases in crime in some communities.

## Appendix B

# July 2013

### Riverside Police Aviation Unit Monthly Schedule

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 Days: Watson & Estes PM1: Williams & Miskulin (1400-0200)	2 Days: Watson & Estes PM1: Williams & Miskulin (1400-0200)	3 Days: Watson & Estes PM2: Pelisscro & Ratkovich	4 Days: Watson & Estes PM2: Pelisscro & Ratkovich	5 Days: Watson & Estes PM2: Pelisscro & Ratkovich	6 PM2: Pelisscro & Ratkovich
7 PM1: Williams & Baird  Miskulin Vac	8 Days: Watson & Estes PM1: Williams & Post FLIR Trng (12-1500) Miskulin Vac	9 Days: Watson & Estes PM1: Williams & Post  Miskulin Vac	10 Days: Watson & Estes PM1: Williams & Post BNE Luncheon 1130 Miskulin ADO	11 Days: Watson & Estes PM2: Ratkovich & Baird  Pelisscro ADO	12 Days: Watson & Estes PM2: Ratkovich & Baird  Pelisscro ADO	13 PM2: Ratkovich & Post  Pelisscro COT
14 PM1: Miskulin & Post  Williams Vac	15 Days: Watson & Estes PM1: Miskulin & Post Williams Vac	16 Days: Watson & Estes PM1: Miskulin & Post Williams Vac	17 Days: Watson & Estes PM2: Pelisscro & Ratkovich	18 Days: Mullins & Estes PM2: Pelisscro & Ratkovich Watson Vac	19 Days: Estes & Post PM2: Ratkovich & Pelisscro ADE Watson Vac <b>Shift Change</b>	20 PM2: Ratkovich & Post  Watson Vac
21 PM1: Miskulin & Pelisscro  Williams Vac	22 Days: Estes & Post PM1: Miskulin & Pelisscro Williams Vac	23 Days: Estes & Post PM1: Miskulin & Pelisscro Williams Vac	24 Days: Estes & Post (0730-1430) PM1: Miskulin & Pelisscro Williams Vac	25 Days: Estes & Post PM2: Watson & Ratkovich	26 Days: Estes & Post PM2: Watson & Pelisscro ADE  Ratkovich COT	27 PM2: Watson & Miskulin ADE  Ratkovich COT
28 PM1: Williams & Miskulin	29 Days: Pelisscro & Estes PM1: Williams & Miskulin	30 Days: Pelisscro & Estes PM1: Williams & Miskulin	31 Days: Estes & Pelisscro (0730-1630) PM2: Watson & Post (1600-0200) Ratkovich Mtn Crse	<b>Dayshift</b> 0730-1530 M-F Off Sat. & Sun  Post works PM2 August 1	<b>PM1</b> 1400-0200 Sun & Wed 1500-0200 Mon & Tues Off EO Wed, ThFS	<b>PM2</b> 1400-0200 Sun & Wed 1500-0200 Thur & Fri Off SMT, EO Wed